

208Y120V 3PH 4W full size neutral w/copper ground bus (Fed from DP1)

PANEL "L1M"
 Copper Bus Rating: 225 AMP
 Mains Rating (M.C.B.): 225 AMP
 1 run of #440, 1 #4 G, 3°C
 Feeder Ampacity = 230A

10 KA A.I.C. Enclosure (NEMA) 1

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	CKT #	PH #	TRIPPOLE (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION
SPARE					20 /1	1	A	2	20 /1				SPARE
SPARE					20 /1	3	B	4	20 /1	3.0	0.36	R	2 D.R. Street Recept.
Sprinkler	MIS	0.40	3.3	2#12,1#12G,1/2"C	20 /1	5	C	6	20 /1				
3 D.R. Great Room Recept.	R	0.54	4.5	2#12,1#12G,1/2"C	20 /1	7	A	8	20 /1				SPARE
4 D.R. Great Room Recept.	R	0.72	6.0	2#12,1#12G,1/2"C	20 /1	9	B	10	20 /1				SPARE
Emergency Outside	L	1.00	8.3	2#12,1#12G,1/2"C	20 /1	11	C	12	20 /1	4.2	0.50	R	Hallway/Atic Recept/Dampers
2 D.R. GFCI Bath	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	13	A	14	20 /1	2.7	0.32	MIS	TV Recept
2 D.R. GFCI W/P	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	15	B	16	20 /1	3.0	0.36	R	2 D.R. GFCI Bath
Steps Lighting	L	0.50	4.2	2#12,1#12G,1/2"C	20 /1	17	C	18	20 /1	1.5	0.18	R	1 D.R. GFCI W/P
5 D.R. Great Room Recept.	R	0.90	7.5	2#12,1#12G,1/2"C	20 /1	19	A	20	20 /1	4.9	0.59	L	Atic Lighting
Emergency	L	0.22	1.9	2#12,1#12G,1/2"C	20 /1	21	B	22	20 /1	13.3	1.60	MT	Fire Pump (Rm. 125)
Hallway Recept/ Atic Recept./Dampers	R	0.50	4.2	2#12,1#12G,1/2"C	20 /1	23	C	24	20 /1	14.2	1.70	MT	Furnace Hallway #1 (FCU-5)
4 D.R. GFCI W/P	R	0.72	6.0	2#12,1#12G,1/2"C	20 /1	25	A	26	20 /1	14.2	1.70	MT	Furnace Hallway #2 (FCU-11)
A/C Hallway #1 (CU-8)	C	2.4	23.5	2#8,1#10G,1"C (Note 3)	40 /2	27	B	28	20 /1	4.2	0.50	MIS	Jazuzzi
**23.5 FLA, 4 KVA-Disc60A2P240V/NFNR	C	2.4	23.5	2#8,1#10G,1"C (Note 3)	29	C	30	40 /2	2#8,1#10G,1"C (Note 3)	16.8	1.7	C	A/C Hallway #2 (CU-11)
Wall Pack	L	0.30	2.5	2#12,1#12G,1/2"C	20 /1	31	A	32		16.8	1.7	C	**16.8 FLA, 3.5 KVA-Disc60A2P240V/NFNR
Fire Alarm	MIS	0.50	4.2	2#12,1#12G,1/2"C	20 /1	33	B	34	30 /2	24.0	2.5	MIS	24.0
Pool Lights	L	0.50	4.2	2#12,1#12G,1/2"C	20 /1	35	C	36		24.0	2.5	MIS	***Normal 1-30R 30A-125/250V-3P-4W-G
Pool Lights	L	0.50	4.2	2#12,1#12G,1/2"C	20 /1	37	A	38	20 /1				SPARE
SPARE					20 /1	39	B	40	20 /1				SPARE
SPARE					20 /1	41	C	42	20 /1				SPARE

PANEL "L1M" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION REFERENCE
LIGHTING	L	1.25	3.6	4.5	125% of connected loads
RECEPTACLES	R	1	5.5	5.5	
COOLING LOADS - HVAC	C	1	8.4	8.4	Cooling loads larger than heating
HEATING LOADS - HVAC (non-coincident w/cooling)	H				
MOTOR	MT	1	5.0	5.0	
MISC. NON-CONTINUOUS LOADS	MIS	1	6.7	6.7	
25% LARGEST MOTOR (1.7 KVA)		0.25		0.4	
TOTAL LOAD (KVA)				29.2 KVA	30.5 KVA
TOTAL LOAD (AMP AVG)				81.1 AMP	84.8 AMP

208Y120V 3PH 4W full size neutral w/copper ground bus (Fed from DPE)

PANEL "K1"
 Copper Bus Rating: 300 AMP
 Mains Rating (M.C.B.): 300 AMP
 1 run of #463, 1 #8 G, 1 1/2"C
 Feeder Ampacity = 100A

10 KA A.I.C. Enclosure (NEMA) 1

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	CKT #	PH #	TRIPPOLE (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION
MAIN		0.0	0.0		100 /3	1	A	2	/1				SPACE
---		0.0	0.0			3	B	4	/1				SPACE
---		0.0	0.0			5	C	6	/1				SPACE
Exhaust Fan	MIS	1.70	14.2	2#12,1#12G,1/2"C	20 /1	7	A	8	/1				SPACE
Fresh Air	MIS	1.20	10.0	2#12,1#12G,1/2"C	20 /1	9	B	10	50 /2	43.3	4.5	C	A/C Kitchen
Control Hood	MIS	0.15	1.3	2#12,1#12G,1/2"C	20 /1	11	C	12		43.3	4.5	C	**30W AL3 FLA, 3.5 KVA-Disc60A2P240V/NFNR
Recept Kitchen	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	13	A	14	20 /1	7.1	0.85	MIS	Freezer Pantry
GFCI Kitchen	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	15	B	16	20 /1	7.1	0.85	MIS	Freezer Pantry
GFCI Kitchen	R	0.18	1.5	2#12,1#12G,1/2"C	20 /1	17	C	18	20 /1	10.0	1.20	R	Recept Kitchen (Microwave)
Dishwasher	MIS	1.80	15.0	2#12,1#12G,1/2"C	20 /1	19	A	20	20 /1	2.9	0.35	MIS	Ice Maker
Dishwasher	MIS	1.80	15.0	2#12,1#12G,1/2"C	20 /1	21	B	22	20 /1	3.0	0.36	R	GFCI Kitchen
SPARE					20 /1	23	C	24	20 /1	3.0	0.36	R	GFCI Kitchen
Furnace Kitchen	MT	1.70	14.2	2#12,1#12G,1/2"C	20 /1	25	A	26	20 /1	3.0	0.36	R	GFCI Kitchen
Refrigerator Kitchen	MIS	0.65	5.4	2#12,1#12G,1/2"C	20 /1	27	B	28	20 /1	3.0	0.36	R	GFCI Kitchen
Refrigerator Kitchen	MIS	0.65	5.4	2#12,1#12G,1/2"C	20 /1	29	C	30	20 /1	2.1	0.25	MIS	Hood

PANEL "K1" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION REFERENCE
RECEPTACLES	R	1	3.5	3.5	125% of connected loads
COOLING LOADS - HVAC	C	1	9.0	9.0	Cooling loads larger than heating
HEATING LOADS - HVAC (non-coincident w/cooling)	H				
MOTOR	MT	1	1.7	1.7	
MISC. NON-CONTINUOUS LOADS	MIS	1	10.3	10.3	
25% LARGEST MOTOR (1.7 KVA)		0.25		0.4	
TOTAL LOAD (KVA)				24.5 KVA	24.9 KVA
TOTAL LOAD (AMP AVG)				68.0 AMP	69.2 AMP

Relay Panel Summary

OPTIMUM CARE, SUGAR LAND, TX

Relay Panel	1-Pole Qty	Total Poles	Relay Panel Size	LCD catalog number (or approved equal)
RP3	3	3	8	LCD # GR140BLT # DTC MODERN (8 relays)
RP4	3	3	8	LCD # GR140BLT # DTC MODERN (8 relays)

Relay Panel Load Schedule

OPTIMUM CARE, SUGAR LAND, TX

Relay Panel	Relay #	Loads Served (Zone Name)	Area (served)	Zone	Elec Panel	Circuit Controlled	Time On	Time Off	Flash	Override	Digital Switch	1-Pole	3-Pole
RP1	1	EXTERIOR LTG	EXT	A11	L1A	39	8:00PM	7:00AM	N	N	N	1	
RP1	3	FANS	INT	A13	L1A	24	9:00AM	11:00PM	N	Y	Y	1	
RP1	4	LIGHTING 177A	INT	A14	L1A	22	8:00AM	11:00PM	Y	Y	Y	1	
RP2	4	LIGHTING 177B	INT	A24	L2A	22	8:00AM	11:00PM	Y	Y	Y	1	
RP2	6	SIGNAGE	EXT	A22	L2A	32	8:00PM	8:00AM	N	N	N	1	
RP2	5	3 ITS LTG	EXT	A21	L2M	37,39,41	7:00PM	7:00AM	N	N	N		1
RP5	1	LIGHTING	INT	A51	LSA	4	7:00AM	7:00PM	Y	Y	Y	1	
RP5	2	FANS	INT	A52	LSA	4	7:00AM	7:00PM	Y	Y	Y	1	
RP5	3	EXTERIOR FAN MOTORS	EXT	A53	LSA	29	8:00AM	10:00PM	N	Y	Y	1	
RP5	4	EXTERIOR FAN MOTORS	EXT	A54	LSA	31	8:00AM	10:00PM	N	Y	Y	1	
RP5	5	EXTERIOR FAN LTS	EXT	A55	LSA	33	6:00PM	6:00AM	N	Y	Y	1	

208Y120V 3PH 4W full size neutral w/copper ground bus (Fed from DPE1)

PANEL "L1A"
 Copper Bus Rating: 225 AMP
 Mains Rating (M.C.B.): 150 AMP
 1 run of #410, 1 #6 G, 2 1/2"C
 Feeder Ampacity = 150A

10 KA A.I.C. Enclosure (NEMA) 1

LOAD DESCRIPTION	TYPE	LOAD KVA	LOAD AMP	WIRE/CONDUIT SIZE (Note 1)	TRIPPOLE (Note 2)	CKT #	PH #	TRIPPOLE (Note 2)	WIRE/CONDUIT SIZE (Note 1)	LOAD AMP	LOAD KVA	TYPE	LOAD DESCRIPTION	
EXTERIOR REC (2)	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	1	A	2	20 /1	6.0	0.72	MIS	TV REC (2) 120A	
GF RR (2) 122A	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	3	B	4	20 /1	3.0	0.36	MIS	TV REC (1) 127A	
BEDROOM REC (4) 123A	R	0.72	6.0	2#12,1#12G,1/2"C	20 /1	5	C	6	20 /1	6.0	0.72	MIS	TV REC (2) 116A	
GF & (3) REC 123A	R	0.72	6.0	2#12,1#12G,1/2"C	20 /1	7	A	8	20 /1	6.0	0.72	MIS	TV REC (2) 128A	
BEDROOM REC (2) 127A	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	9	B	10	20 /1	6.0	0.72	MIS	GREAT ROOM TV REC (2) 117A	
BEDROOM REC (4) 116A	R	0.72	6.0	2#12,1#12G,1/2"C	20 /1	11	C	12	20 /1	4.2	0.50	MIS	PCS (2) 117A & 125A	
GF RR (2) 115A	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	13	A	14	20 /1	7.3	0.88	L	LIGHTING 124A	
BEDROOM REC (4) 128A	R	0.72	6.0	2#12,1#12G,1/2"C	20 /1	15	B	16	20 /1	10.6	1.28	L	LIGHTING 128A	
BEDROOM REC (4) 129A	R	0.72	6.0	2#12,1#12G,1/2"C	20 /1	17	C	18	20 /1	0.8	0.10	L	LIGHTING 128A	
GREAT ROOM REC (8) 117A	R	1.98	9.0	2#12,1#12G,1/2"C	20 /1	19	A	20	20 /1	9.8	1.18	L	LIGHTING 137A	
GREAT ROOM REC (8) 117A	R	0.90	7.5	2#12,1#12G,1/2"C	20 /1	21	B	22	20 /1	4.4	0.53	L	LIGHTING 177A	
GREAT ROOM REC (2) 117A	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	23	C	24	20 /1	7.5	0.90	M	FANS	
GREAT ROOM REC (2) 117A	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	25	A	26	20 /1	7.3	0.88	L	LIGHTING 124B	
CORRIDOR REC (4) 118A	R	0.72	6.0	2#12,1#12G,1/2"C	20 /1	27	B	28	20 /1	2.1	0.25	MIS	FIRE ALARM	
CONVENIENCE REC (2) 125A	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	29	C	30	20 /1	4.2	0.50	M	GATE OPERATOR	
GF & (2) REC 110A	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	31	A	32	20 /1	10.7	1.28	L	LIGHTING 128B	
EXTERIOR REC (2)	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	33	B	34	20 /1	4.4	0.53	L	LIGHTING 177B	
EXTERIOR REC (2)	R	0.36	3.0	2#12,1#12G,1/2"C	20 /1	35	C	36	/1				SPACE	
EXTERIOR REC (1)	R	0.18	1.5	2#12,1#12G,1/2"C	20 /1	37	A	38	60 /3	466,1#10G,1 1/4"C	0.0	0.0	MIS	SPD (Surge-Protective Device)
EXTERIOR LTG	OL	1.17	9.7	2#12,1#12G,1/2"C	20 /1	39	B	40		0.0	0.0	MIS	*** (Externally Mounted)	
GREAT ROOM TV REC (2) 117B	MIS	0.72	6.0	2#12,1#12G,1/2"C	20 /1	41	C	42		0.0	0.0	MIS	*Erico #TDX100 Modular ***	

PANEL "L1A" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION REFERENCE
LIGHTING	L	1.25	6.6	8.3	125% of connected loads
RECEPTACLES	R	---	10.1	10.0	NEC2014 Art. 220.44, First 10KVA @ 100%, Remainder @50%
MISC. NON-CONTINUOUS LOADS	MIS	1	4.7	4.7	
OUTSIDE LIGHTING	OL	1.25	1.2	1.5	
TOTAL LOAD (KVA)				22.6 KVA	24.5 KVA
TOTAL LOAD (AMP AVG)				62.7 AMP	68.0 AMP

208Y120V 3PH 4W full size neutral w/copper ground bus (Fed from DP1)

OPTIMUM CARE, SUGAR LAND, TX

DIST. PANELBOARD "DPE1"
 Copper Bus Rating: 400 Amp
 Mains Rating (M.C.B.): 400 Amp
 1 run of #480X KCM, 1 #3 G, 4"condit
 Feeder Ampacity = 400A

OPTIONAL STANDBY ELECTRICAL SYSTEM

10 KA A.I.C. Enclosure (NEMA) 3R

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION REFERENCE
LIGHTING	L	1.25	8.3	10.4	125% of connected loads
RECEPTACLES	R	---	13.8	11.9	NEC2014 Art. 220.44
COOLING LOADS - HVAC	C	1	34.7	34.7	Cooling loads larger than heating
HEATING LOADS - HVAC (non-coincident w/cooling)	H				
MOTOR	MT	1	23.7	23.7	
MISC. NON-CONTINUOUS LOADS	MIS	1	30.3	30.3	
KITCHEN LOADS	K	0.65	14.8	9.6	NEC2014 Art. 220.56
OUTSIDE LIGHTING	OL	1.25	1.2	1.5	
TOTAL LOAD (KVA)				126.7 KVA	122.0 KVA
TOTAL LOAD (AMP AVG)				351.6 AMP	338.6 AMP

DIST. PANELBOARD "DPE1" LOAD ANALYSIS

LOAD DESCRIPTION	TYPE	DEMAND FACTOR	CONNECTED	LOAD (KVA)	NEC CALCULATION REFERENCE
LIGHTING	L	1.25	8.3	10.4	125% of connected loads
RECEPTACLES	R	---	13.8	11.9	NEC2014 Art. 220.44
COOLING LOADS - HVAC	C	1	34.7	34.7	Cooling loads larger than heating
HEATING LOADS - HVAC (non-coincident w/cooling)	H				